**6.1 Introduction to Fraction Operations**

Name:\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson Focus:** Mathletes will be able to determine if a number can be divided evenly by 2,3,4,5,6,8,9, 10. Mathletes will be able to show why a number is not divisible by 0. Mathletes will be able to find the factors of a number using divisibility rules. Mathletes will be able to write a fraction in lowest terms using common factors.

<http://www.youtube.com/watch?v=K1N4zZndqMs>

**Review of Terms from Grade 6:**

* Quotient
  + A quotient is the result of a division.
  + In 12 / 2 = 6, the quotient is 6.
* Factors
  + Numbers that are multiplied to produce a product.
  + In 3 x 6 = 18, 3 and 6 are factors of 18.
* Even
  + Even numbers are 0, 2, 4, 6, 8, and so on.
* Odd
  + Odd numbers are 1, 3, 5, 7, 9, and so on
* Pair
  + Two things put together
  + A pair of shoes, a pair of scissors (2 blades), a pair of socks, etc.

**Key Terms:**

* Divisible
  + When a number can be divided by another number, with no remainder.
* Common Factor
  + A number that two or more numbers are divisible by
  + 4 is a common factor of 8 and 12
* Lowest Terms
  + A fraction is in lowest terms when the numerator and denominator of the fraction have no common factors other than 1

**Part 1: Divisibility by 2,5,10**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
| **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** |
| **41** | **42** | **43** | **44** | **45** | **46** | **47** | **48** | **49** | **50** |
| **51** | **52** | **53** | **54** | **55** | **56** | **57** | **58** | **59** | **60** |
| **61** | **62** | **63** | **64** | **65** | **66** | **67** | **68** | **69** | **70** |
| **71** | **72** | **73** | **74** | **75** | **76** | **77** | **78** | **79** | **80** |
| **81** | **82** | **83** | **84** | **85** | **86** | **87** | **88** | **89** | **90** |
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| **101** | **102** | **103** | **104** | **105** | **106** | **107** | **108** | **109** | **110** |
| **111** | **112** | **113** | **114** | **115** | **116** | **117** | **118** | **119** | **120** |

1. **On the numbers chart above:**
2. Circle each number that is divisible by 2
3. Put a triangle around each number divisible by 5
4. Put an x through each number that is divisible by 10
5. A) The circled numbers are divisible by 2. Look at the last digit of each circled number. Are these digits odd or even?

WHAT IS THE DIVISIBILITY RULE FOR 2?

b) The numbers with a triangle are divisible by 5. Look at the last digit of each number with a triangle. What do you notice?

WHAT IS THE DIVISIBILITY RULE FOR 5?

c) The numbers with an x are divisible by 10. Look at the last digit of each number with an X. What do you notice?

WHAT IS THE DIVISIBILITY RULE FOR 10?

1. Look at the numbers divisible by 10. What other numbers are they divisible by?

**Part 2:**

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| **1044** | **1045** | **1046** | **1047** | **1048** | **1049** | **1050** | **1051** | **1052** | **1053** |
| **1054** | **1055** | **1056** | **1057** | **1058** | **1059** | **1060** | **1061** | **1062** | **1063** |
| **1064** | **1065** | **1066** | **1067** | **1068** | **1069** | **1070** | **1071** | **1072** | **1073** |
| **1074** | **1075** | **1076** | **1077** | **1078** | **1079** | **1080** | **1081** | **1082** | **1083** |
| **1084** | **1085** | **1086** | **1087** | **1088** | **1089** | **1090** | **1091** | **1092** | **1093** |
| **1094** | **1095** | **1096** | **1097** | **1098** | **1099** | **1100** | **1101** | **1102** | **1103** |
| **1104** | **1105** | **1106** | **1107** | **1108** | **1109** | **1110** | **1111** | **1112** | **1113** |
| **1114** | **1115** | **1116** | **1117** | **1118** | **1119** | **1120** | **1121** | **1122** | **1123** |
| **1124** | **1125** | **1126** | **1127** | **1128** | **1129** | **1130** | **1131** | **1132** | **1133** |
| **1134** | **1135** | **1136** | **1137** | **1138** | **1139** | **1140** | **1141** | **1142** | **1143** |

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1. Put a circle around each number that is divisible by 4
2. Circle each number that is divisible by 8
3. A) Look at the last two digits of one of these numbers. What is the number formed by these two digits? Divide it by 4.

c) Is the quotient a whole number of a decimal?

1. Choose another number that can be divided by 4. Look at the last two decimals and divide by 4.
2. A) Look at a number that is divisible by 8. Look at the last three digits of the number. Divide them by 8.

b) Is the quotient a whole number or a decimal?

c)Choose another number that is divisible by 8 and divide the last three digits by

8. What do you notice?

**Part 3: Divisibility of 3,6,9**

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1. **Put a circle around each number that is divisible by 3**
2. **Put an x through each number that is divisible by 6**
3. **Put a triangle around each number that is divisible by 9**
4. **Calculate the sum of the digits of a few of the numbers that are divisible by 3 until you get a one digit number. What number is that last digit divisible by?**
5. **Choose a number divisible by 9. Calculate the sum of the digits. What is the largest single digit that the number can be divided by?**
6. **Put a vertical through the numbers that are divisible by 2. The numbers with an x are divisible by 6. What other two numbers are the numbers with an x divisible by?**

**Part 4:**

1. **If you have 6 coins how can you divide them into:**
2. **Groups of three**
3. **Groups of two**
4. **Groups of 1**
5. Groups of 0

**IMPORTANT PAGE!!!!**

|  |  |
| --- | --- |
| A number is divisible by… | If… |
| 2 | The last digit is even (0, 2, 4, 6, or 8) |
| 3 | The sum of the digits is divisible by 3 |
| 4 | The number formed by the last two digits is divisible by 2 at least twice |
| 5 | The last digit is 0 or 5 |
| 6 | The number is divisible by both 2 and 3 |
| 8 | The number is divisible by 2 at least 3 times |
| 9 | The sum of the digits is divisible by 9 |
| 10 | The last digit is 0 |